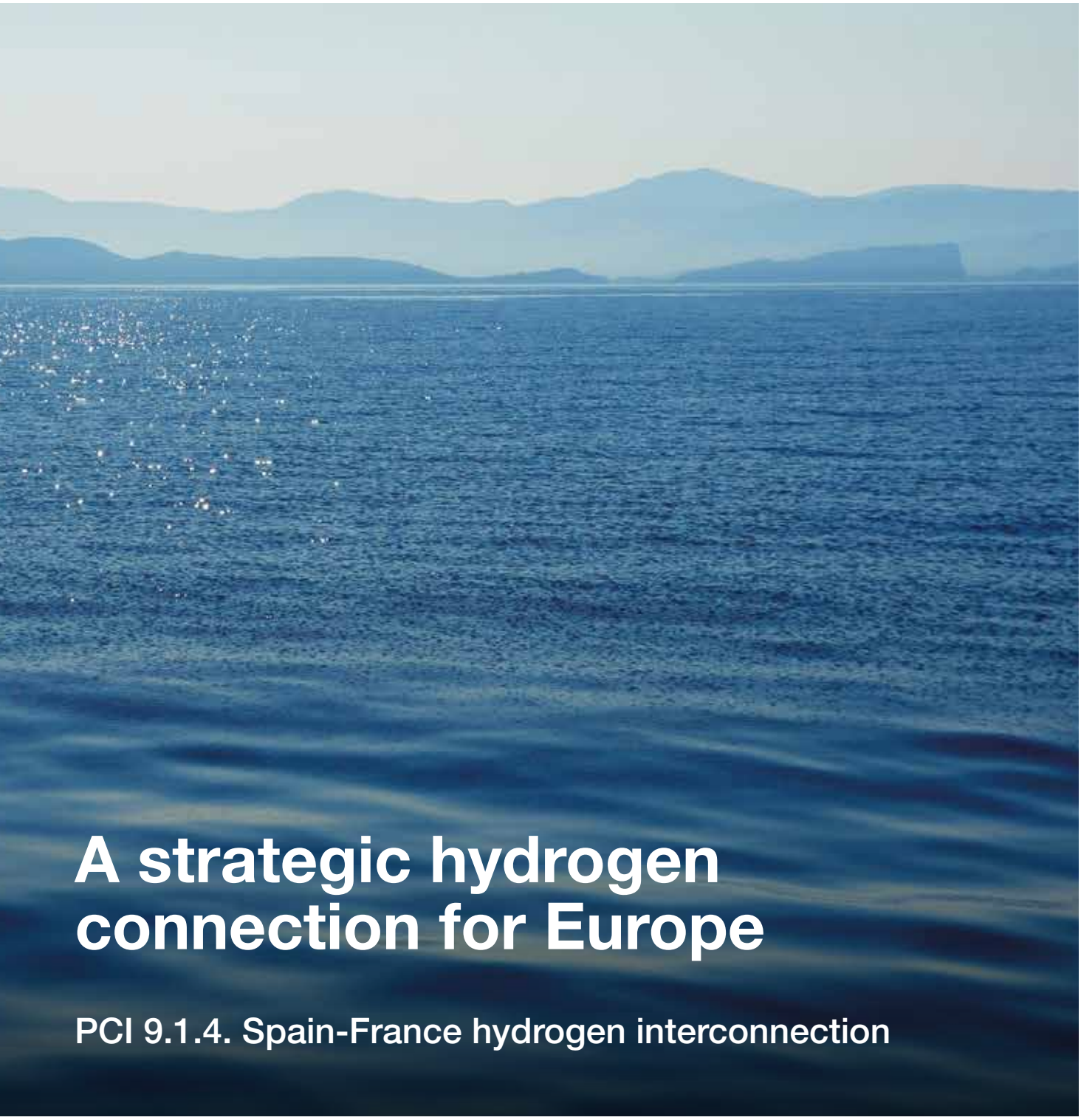

# A strategic hydrogen connection for Europe

## PCI 9.1.4. Spain-France hydrogen interconnection

**Co-financed by the European Union**

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**Project information brochure**

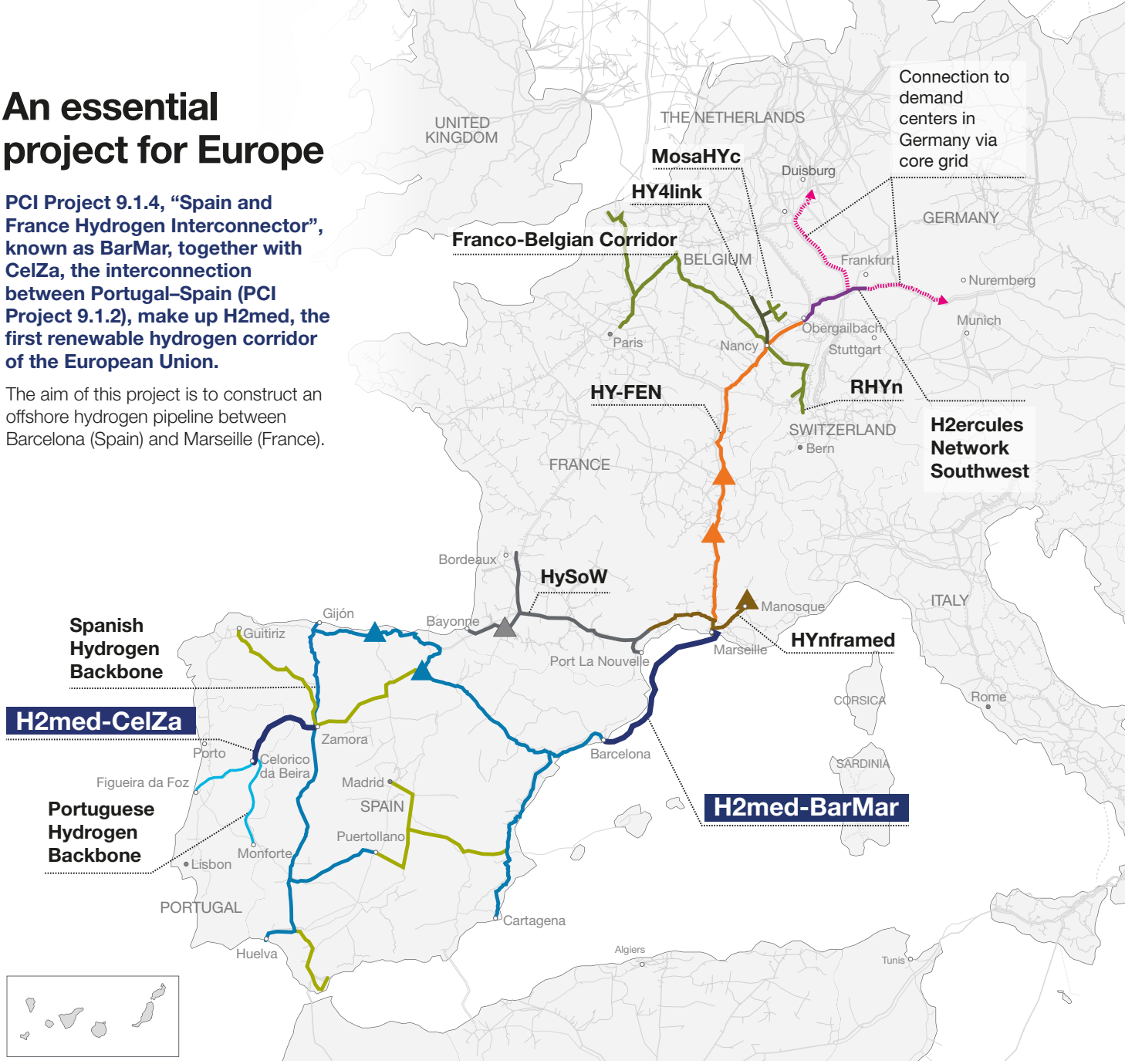
April 2026

**h2medproject.com/barmar**

# An essential project for Europe

**PCI Project 9.1.4, "Spain and France Hydrogen Interconnector", known as BarMar, together with CelZa, the interconnection between Portugal–Spain (PCI Project 9.1.2), make up H2med, the first renewable hydrogen corridor of the European Union.**

The aim of this project is to construct an offshore hydrogen pipeline between Barcelona (Spain) and Marseille (France).




# An opportunity for Spain and France

**A more sustainable energy future**
A hydrogen network is key to decarbonising industry and heavy transport

**Technological and industrial development**
Creation of a hydrogen industry and generation of an innovative business fabric

**Growth and competitiveness**
≈€2.1 billion investment

**Regional job creation and revitalisation**
New jobs during the construction of BarMar and during operation and maintenance

**The hydrogen economy in Spain will generate more than €32 billion in GDP and sustain around 81,000 jobs each year throughout its development*.**

**In France, the availability of renewable hydrogen is vital for tens of thousands of industrial jobs in the chemical, steel and synthetic aviation fuel sectors.**

* Source: "Socio-economic impact of the development of the hydrogen economy in Spain", a report issued by PWC for Enagás (2023).

# A PCI project with EU financing

**The aim of H2med is to connect hydrogen production on the Iberian Peninsula with consumption centres in north-western Europe.**

H2med and Spain's inland hydrogen infrastructure, along with the French internal hydrogen infrastructure connecting to Germany (HY-FEN) were designated by the European Commission as **Projects of Common Interest** (PCI) in the first call for hydrogen projects in April 2024.

In January 2025, the European Climate, Infrastructure and Environment Executive Agency (CINEA) awarded **100% of the requested Connecting Europe Facility (CEF) Energy funding** for the project study phases of BarMar.

**€28.3 M**

European investment for **BarMar's engineering studies**

# Project timeline

**December 2022**
Alicante Summit. Mandate by governments to TSOs to develop H2med project

**January 2024**
Designation by the Spanish Parliament of Enagás as the provisional national hydrogen transport operator

**April 2024**
Inclusion on the definitive list of the project's PCIs: PCI 9.1.4 Spain-France hydrogen interconnection (H2med-BarMar)

**July 2024**
Authorisation by the Spanish Council of Ministers for Enagás to develop PCIs

**2024-2027**
Offshore survey campaigns

Engineering development and permit applications

**January 2025**
Granting of CEF funding for the project study phases

**June 2025**
Creation of the project company BarMar SPV

**2025-2026**
Initial environmental assessment and impact studies in Spain and France

**September 2025**
H2med, recognized as a "flagship project" by France and Germany

**December 2025**
H2med, a priority Energy Highway for the EU

**April-July 2026**
Public consultations in Spain and France

**Mid 2026**
Launch of FEED (Front-End Engineering Design)

**2027-2028**
Permit applications and public disclosure

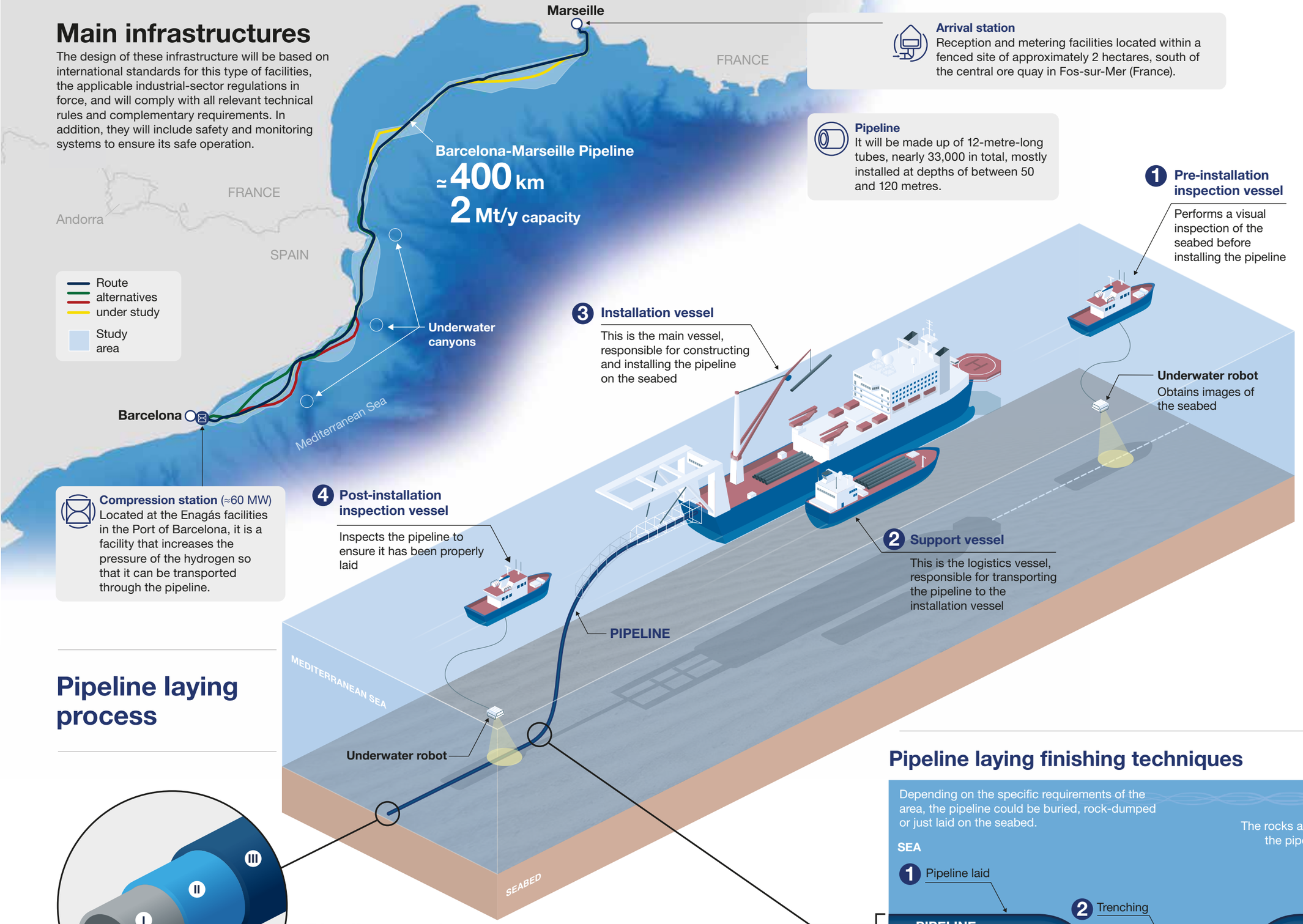
**2028**
Submission of the application to the CEF-E funding mechanism for the construction phase

**2029**
Final investment decision (FID)

**2029-2032**
Construction and commissioning

# Main infrastructures

The design of these infrastructure will be based on international standards for this type of facilities, the applicable industrial-sector regulations in force, and will comply with all relevant technical rules and complementary requirements. In addition, they will include safety and monitoring systems to ensure its safe operation.




## Pipeline construction phases

**Pipe unloading**
The process begins with the unloading of 12-metre pipes from the transport vessels to the laying vessel.

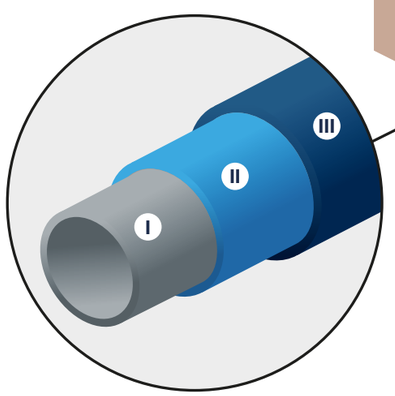
**Pipe preparation**
Bevelling of pipe ends and cleaning of the interior.

**Welding**
Alignment of pipes and welding them together to create double sections of 24 metres in length.

**Weld inspection**
Inspection to detect and remove any possible imperfections in the weld.

**Weld coating**

## Pipeline laying process



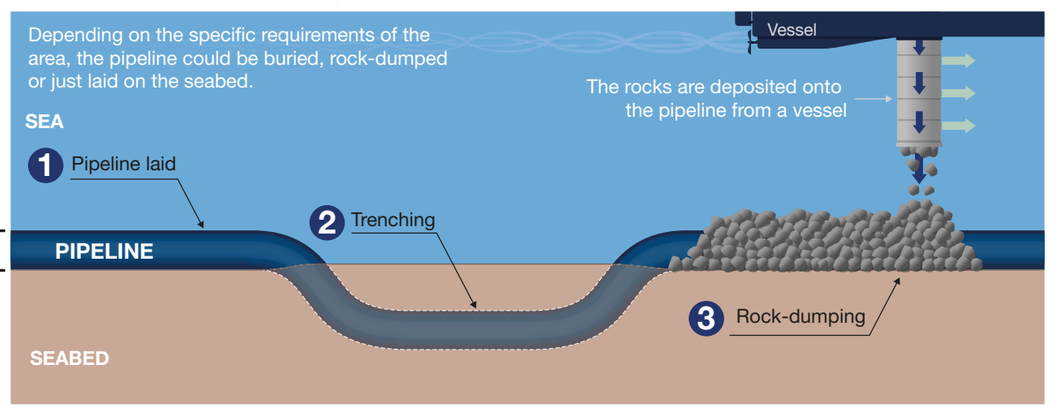

### Pipeline section

I Carbon steel pipe

II High-density polyethylene coating

III Concrete coating

## Pipeline laying finishing techniques



# A transparent participatory process

In compliance with the provisions of the TEN-E Regulation of the European Union (EU Regulation 2022/869), the project developer in each region is obliged to implement a public participation plan to provide information and involve the citizens and stakeholders in the decision-making with regard to a PCI in the field of energy.

On the first of April 2026, the National Commission for Public Debate (CNDP) validated the consultation concept proposed by BarMar and appointed three guarantors to oversee the process in France. For more information, see the project sheet on the CNDP website: **www.debatpublic.fr/canalisation-sous-marine-de-transport-dhydrogene-entre-barcelone-et-fos-sur-mer-barmar-7812**, or directly on the H2med website: **h2medproject.com/fr/barmar/**

In Spain, Enagás has initiated the formal permitting process for the authorizations applicable to this PCI, in accordance with Regulation (EU) 2022/869 and the Authorization Procedure Manual for Energy PCIs, published by the Ministry for the Ecological Transition and the Demographic Challenge in October 2023.

## Objectives

**Shed light on BarMar's approach**
by taking into account environmental sensitivity and social legitimacy from an early stage

**Involve the community**
and encourage their active participation in the process

**Identify and mitigate impacts**
in advance and ensuring the most appropriate actions are taken to address them

**Resolving doubts and explaining**
the project

**Be transparent in disclosing information**
about the future hydrogen network to all interested parties

**European Commission Transparency Platform**

**Procedural manual in Spain**

**Procedural manual in France**

## What does it consist of?

Information on the development of the public participation process is available on **h2medproject.com/barmar**, which provides access to the specific platforms developed for the process in each country.

**In Spain**, the process can be consulted on the website **www.infraestructurasdehidrogeno.es**.

**In France**, the process can be consulted through a dedicated contribution platform: **www.registre-numerique.fr/barmar**.

These are some of the main information and participation activities that the promoters will carry out:

Website

Information leaflet and non-technical summary

Expert sessions about specific stakes

Participatory meetings with stakeholders and the administration

Dissemination through information points

# Commitment to environmental and social sustainability

Green hydrogen is a 100% renewable vector essential for combating climate change and making advancements in the energy transition.

**The BarMar project will have a limited environmental impact thanks to the implementation of preventive, corrective and monitoring measures throughout all its phases.**

The protection of sensitive marine habitats, flora and fauna, as well as the minimisation of temporary impacts on fishing activities, will be a priority in the development of the project.

### Construction phase

Temporary impacts arising from the execution of the works, which will be mitigated through appropriate measures. The pipe-laying work will proceed at a speed of ≈2 km per day, thereby minimising the duration of any disruption.

### Commissioning

Minimal impacts during the execution of the necessary tests for the commissioning of the facilities, limited in time and spatial extent.

### Operation phase

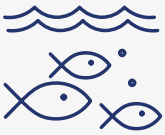
Reduced impact from the largely low-emission operation of compressor station and other ancillary facilities, which shall be mitigated by compliance with applicable regulatory and environmental control measures.

With the aim of protecting the environment, a set of preventive and corrective measures has been established across the different design, construction, and operation phases.

## Preventive measures

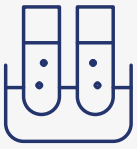
### Route design measures

- Route design based on technical, environmental and socioeconomic criteria, taking into account seabed characteristics as well as the presence of habitats and protected areas.
- Seeking to minimize the social and economic impact on marine-environment users.
- Microtunneling at landfalls.



### Marine biodiversity protection

- Habitat mapping using geophysical data, videos and sampling.
- Biological characterization and monitoring of marine fauna.
- Measures to safeguard fauna and the marine environment through planned and controlled operations.



### Control of water quality

- Careful execution of marine works to preserve water and seabed conditions.
- Continuous water quality oversight.
- Modelling of turbidity dispersion. Use of controlled burial techniques and limitation of dredging in critical areas to reduce sediment resuspension.

### Environmental monitoring and follow-up plan

- Environmental monitoring programmes during construction and operation to assess the effectiveness of mitigation measures.
- Monitoring of indicator species and critical habitats.

## Corrective measures

### Restoration of habitats

### Coordination measures with fisheries stakeholders to minimise temporary disruptions to fishing activities

# Project promoters

The shareholding structure of BarMar project company is: EIH-Enagás with 50%, NaTran with 33.3% and Teréga with 16.7%.

**www.enagas.es**
Paseo de los Olmos, 19
28005 Madrid

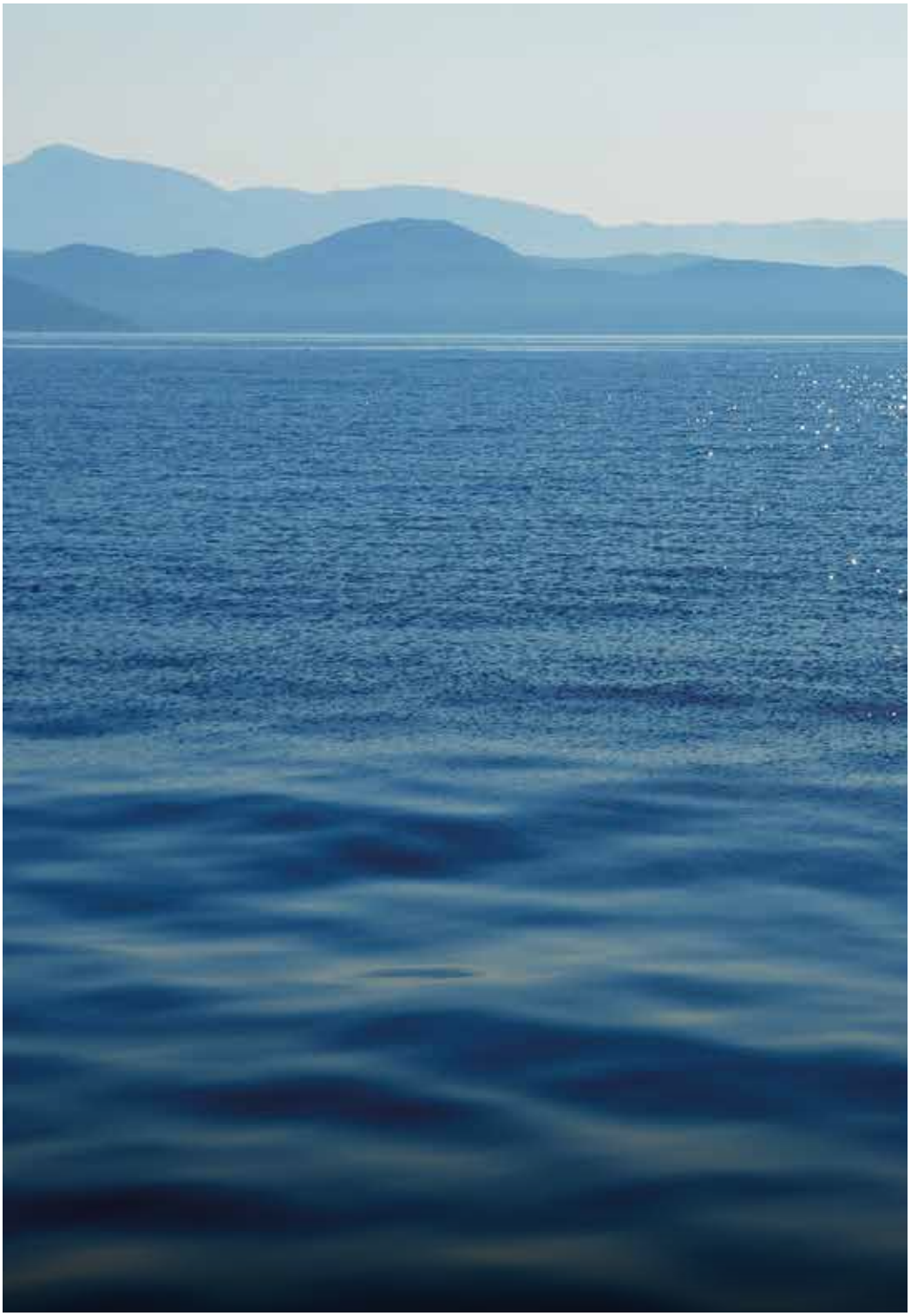
**Enagás** is the operator of the natural gas transmission networks (TSO) in Spain and it has also been designated by the Spanish Government as interim operator of the future hydrogen network in the country (HTNO). With more than 50 years of experience in the construction and operation of energy infrastructures, the company is committed to Europe's security of supply and decarbonization.

**www.natrangroupe.com**
6, rue Raoul-Nordling
92270 Bois-Colombes

**NaTran** (formerly GRTgaz) is Europe's second-largest gas transporter, with 32,618 km of pipelines. NaTran has defined its purpose as: "Together, making a secure, affordable and climate-neutral energy future possible".

**www.terega.fr**
40, avenue de l'Europe
64000 Pau

**Teréga** has been deploying its exceptional expertise in the development of gas transport and storage infrastructure for 80 years and is now designing innovative solutions to meet the major energy challenges facing France and Europe.



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